

Supplemental Material

Table S1. Differences of Baseline Characteristics Between Included and Excluded**Participants**

Variables	Included Participants (n = 3018)	Excluded Participants (n = 1795)	p value
Age (years)	56 ± 12	52 ± 14	<0.001
Female, n (%)	2077 (69)	1024 (58)	<0.001
Body mass index (kg/m²)	32.1 ± 7.1	31.1 ± 7.4	<0.001
Diabetes mellitus, n (%)	603 (20)	365 (21)	0.42
Current smokers, n (%)	304 (10)	298 (17)	<0.001
Hemoglobin A1c (%)	5.9 ± 1.2	6.0 ± 1.4	0.26
Total / HDL cholesterol	4.1 ± 1.3	4.2 ± 1.4	<0.001
ratio			
SBP (mmHg)	127 ± 18	126 ± 19	0.004
DBP (mmHg)	79 ± 10	79 ± 11	0.47
Pulse Pressure (mmHg)	48 ± 16	47 ± 16	0.005
Heart Rate (bpm)	65 ± 10	65 ± 11	0.83

Data are presented as mean ± standard deviation for continuous variables and percentages for categorical variables.

Student t-test for continuous variables and chi-square tests for categorical variables were used for comparison of two groups.

SBP: systolic blood pressure, DBP: diastolic blood pressure, HDL: high density lipoprotein

Table S2. Baseline characteristics according to AoD quintiles

Variables	Q1	Q2	Q3	Q4	Q5	p value
Age (years)	53 ± 12	54 ± 12	57 ± 12	57 ± 11	60 ± 12	<0.001
Body mass index (kg/m²)	30.3 ± 6.6	31.6 ± 6.7	32.3 ± 6.7	32.6 ± 7.1	33.7 ± 7.8	<0.001
Diabetes mellitus, n (%)	93 (15)	115 (19)	134 (22)	133 (22)	128 (22)	0.004
Current smokers, n (%)	60 (10)	80 (13)	64 (11)	49 (8)	51 (9)	0.040
Hemoglobin A1c (%)	5.8 ± 1.1	5.9 ± 1.1	6.0 ± 1.2	6.0 ± 1.2	5.9 ± 1.1	0.029
Total / HDL cholesterol ratio	3.9 ± 1.2	4.1 ± 1.4	4.1 ± 1.2	4.2 ± 1.3	4.0 ± 1.2	0.099
SBP (mmHg)	124 ± 16	125 ± 17	127 ± 18	128 ± 18	131 ± 18	<0.001
DBP (mmHg)	78 ± 10	78 ± 10	79 ± 10	80 ± 10	80 ± 10	<0.001
Pulse Pressure (mmHg)	47 ± 14	47 ± 15	48 ± 16	48 ± 15	51 ± 17	<0.001
LVDd (mm)	48 ± 4	48 ± 4	48 ± 4	48 ± 5	49 ± 5	<0.001

LVDs (mm)	30 ± 5	29 ± 4	30 ± 5	29 ± 5	30 ± 5	0.121
LVEDV (ml)	108 ± 23	107 ± 20	111 ± 24	111 ± 25	114 ± 26	<0.001
LVESV (ml)	35 ± 15	34 ± 12	35 ± 15	35 ± 14	36 ± 17	0.086
Stroke volume (ml)	73 ± 16	73 ± 15	76 ± 17	77 ± 18	78 ± 17	<0.001
LVMI (g/m²)	71 ± 19	71 ± 37	73 ± 19	74 ± 17	79 ± 24	<0.001
Relative wall thickness	0.36 ± 0.07	0.35 ± 0.06	0.36 ± 0.07	0.36 ± 0.07	0.36 ± 0.09	0.044
LVEF (%)	68 ± 10	69 ± 8	69 ± 8	69 ± 11	69 ± 9	0.075

Data are presented as mean ± standard deviation for continuous variables and percentages for categorical variables. One-way analysis of variance was used for comparisons of continuous variables and chi-square tests were used for comparisons of categorical variables. AoD: diameter of proximal aorta, SBP: systolic blood pressure, DBP: diastolic blood pressure, Ea: effective arterial elastance, Ees: end-systolic elastance, LVDd: left ventricular diastolic dimension, LVDs: left ventricular systolic dimension, LVEDV: left ventricular end-diastolic volume, LVESV: left ventricular end-systolic volume, LVMI: left ventricular mass index, LVEF: left ventricular ejection fraction, E: peak early mitral inflow velocity, A: late mitral inflow velocity

Table S3. Baseline characteristics according to AoD / Height quintiles

Variables	Q1	Q2	Q3	Q4	Q5	p value
Age (years)	52 ± 12	54 ± 12	57 ± 12	57 ± 11	60 ± 12	<0.001
Body mass index (kg/m²)	30.3 ± 6.6	31.6 ± 6.7	32.3 ± 6.7	32.5 ± 7.1	33.7 ± 7.8	<0.001
Diabetes mellitus, n (%)	93 (15)	115 (19)	134 (22)	133 (22)	128 (22)	0.017
Current smokers, n (%)	60 (10)	80 (13)	64 (11)	49 (8)	51 (9)	0.025
Hemoglobin A1c (%)	5.8 ± 1.1	5.8 ± 1.1	6.0 ± 1.2	6.0 ± 1.2	5.9 ± 1.1	0.004
Total / HDL cholesterol ratio	3.9 ± 1.2	4.1 ± 1.4	4.1 ± 1.2	4.2 ± 1.3	4.0 ± 1.2	0.045
SBP (mmHg)	124 ± 16	125 ± 17	127 ± 18	128 ± 18	131 ± 18	<0.001
DBP (mmHg)	78 ± 10	78 ± 10	79 ± 10	80 ± 10	80 ± 10	<0.001
Pulse Pressure (mmHg)	47 ± 14	47 ± 15	48 ± 16	48 ± 15	51 ± 17	<0.001
LVDd (mm)	48 ± 4	48 ± 4	48 ± 4	48 ± 5	49 ± 4	<0.001

LVDs (mm)	29 ± 4	29 ± 4	30 ± 4	29 ± 5	30 ± 4	0.468
LVEDV (ml)	107 ± 23	107 ± 20	111 ± 24	111 ± 25	113 ± 23	<0.001
LVESV (ml)	35 ± 14	34 ± 12	35 ± 15	35 ± 14	36 ± 14	0.468
Stroke volume (ml)	73 ± 16	73 ± 15	76 ± 17	76 ± 18	78 ± 16	<0.001
LVMI (g/m²)	80 ± 26	80 ± 44	79 ± 24	81 ± 28	83 ± 48	0.417
Relative wall thickness	0.35 ± 0.06	0.35 ± 0.06	0.35 ± 0.07	0.36 ± 0.07	0.36 ± 0.09	0.326
LVEF (%)	68 ± 10	69 ± 8	69 ± 8	69 ± 11	69 ± 8	0.422

Data are presented as mean ± standard deviation for continuous variables and percentages for categorical variables. One-way analysis of variance was used for comparisons of continuous variables and chi-square tests were used for comparisons of categorical variables. AoD: diameter of proximal aorta, SBP: systolic blood pressure, DBP: diastolic blood pressure, LVDD: left ventricular diastolic dimension, LVDs: left ventricular systolic dimension, LVEDV: left ventricular end-diastolic volume, LVESV: left ventricular end-systolic volume, LVMI: left ventricular mass index, LVEF: left ventricular ejection fraction, E: peak early mitral inflow velocity, A: late mitral inflow velocity

Table S4. Baseline characteristics according to AoD / BSA quintiles

Variables	Q1	Q2	Q3	Q4	Q5	p value
Age (years)	52 ± 11	54 ± 12	56 ± 12	58 ± 12	60 ± 13	<0.001
Body mass index (kg/m²)	38.5 ± 8.3	33.4 ± 6.2	31.7 ± 5.4	29.7 ± 4.8	27.1 ± 4.3	<0.001
Diabetes mellitus, n (%)	141 (23)	144 (24)	134 (22)	100 (17)	84 (14)	<0.001
Current smokers, n (%)	61 (10)	56 (9)	64 (11)	58 (10)	65 (11)	0.896
Hemoglobin A1c (%)	6.0 ± 1.3	6.0 ± 1.3	6.0 ± 1.2	5.8 ± 0.9	5.7 ± 1.0	<0.001
Total / HDL cholesterol ratio	4.2 ± 1.4	4.1 ± 1.3	4.2 ± 1.3	4.0 ± 1.2	3.9 ± 1.2	<0.001
SBP (mmHg)	126 ± 16	126 ± 16	126 ± 17	128 ± 18	130 ± 20	<0.001
DBP (mmHg)	79 ± 10	79 ± 10	79 ± 10	79 ± 10	79 ± 11	0.370
Pulse Pressure (mmHg)	47 ± 14	47 ± 14	47 ± 15	49 ± 16	51 ± 18	0.003
LVDd (mm)	49.0 ± 4.5	48.3 ± 4.3	48.1 ± 4.1	48.1 ± 4.3	47.6 ± 4.5	<0.001

LVDs (mm)	8.8 ± 1.5	8.5 ± 1.5	8.5 ± 1.4	8.5 ± 1.9	8.4 ± 1.5	<0.001
LVEDV (ml)	114 ± 25	110 ± 23	109 ± 21	109 ± 23	107 ± 23	<0.001
LVESV (ml)	37 ± 17	35 ± 14	34 ± 12	34 ± 12	33 ± 14	<0.001
Stroke volume (ml)	77 ± 18	75 ± 16	75 ± 16	75 ± 16	73 ± 16	<0.001
LVMI (g/m²)	71 ± 24	75 ± 23	78 ± 24	87 ± 58	90 ± 29	<0.001
Relative wall thickness	0.36 ± 0.07	0.36 ± 0.07	0.35 ± 0.06	0.35 ± 0.09	0.36 ± 0.07	0.014
LVEF (%)	68 ± 11	68 ± 8	69 ± 7	69 ± 8	69 ± 11	0.090

Data are presented as mean ± standard deviation for continuous variables and percentages for categorical variables. One-way analysis of variance was used for comparisons of continuous variables and chi-square tests were used for comparisons of categorical variables. AoD: diameter of proximal aorta, SBP: systolic blood pressure, DBP: diastolic blood pressure, Ea: effective arterial elastance, Ees: end-systolic elastance, LVDd: left ventricular diastolic dimension, LVDs: left ventricular systolic dimension, LVEDV: left ventricular end-diastolic volume, LVESV: left ventricular end-systolic volume, LVMI: left ventricular mas index, LVEF: left ventricular ejection fraction, E: peak early mitral inflow velocity, A: late mitral inflow velocity

Table S5. Baseline Patient Characteristics for All-cause Mortality Analysis

Variables	Bottom Four Quintiles AoD (30.7 ± 2.7 mm) (n = 2706)	Top Quintile AoD (35.6 ± 2.5 mm) (n = 669)	p value
Age (years)	56 ± 11	59 ± 11	<0.001
Body mass index (kg/m²)	31.7 ± 6.9	33.2 ± 7.8	<0.001
Diabetes mellitus, n (%)	565 (21)	157 (24)	0.15
Current smokers, n (%)	297 (11)	69 (10)	0.62
Hemoglobin A1c (%)	5.9 ± 1.2	6.0 ± 1.4	0.061
Total / HDL cholesterol ratio	4.1 ± 1.3	4.0 ± 1.3	0.96
SBP (mmHg)	127 ± 18	130 ± 18	<0.001
DBP (mmHg)	79 ± 10	80 ± 11	<0.001
Pulse Pressure (mmHg)	49 ± 16	50 ± 16	0.035
Heart Rate (bpm)	66 ± 11	65 ± 11	0.010
LVDd (mm)	48.1 ± 4.6	49.6 ± 4.6	<0.001
LVDs (mm)	29.5 ± 4.8	30.4 ± 5.1	<0.001
LVEDV (ml)	156 ± 31	166 ± 32	<0.001
LVESV (ml)	58 ± 22	62 ± 23	<0.001
Stroke volume (ml)	98 ± 20	104 ± 21	<0.001

LVMI (g/m²)	74 ± 25	80 ± 24	<0.001
Relative wall thickness	0.36 ± 0.07	0.36 ± 0.09	0.028
LVEF (%)	63.0 ± 9.3	63.2 ± 8.6	0.71

Data are presented as mean ± standard deviation for continuous variables and percentages for categorical variables.

Student t-test for continuous variables and chi-square tests for categorical variables were used for comparison of two groups.

AoD: diameter of proximal aorta, SBP: systolic blood pressure, DBP: diastolic blood pressure, Ea: effective arterial

elastance, Ees: end-systolic elastance, LVDd: left ventricular diastolic dimension, LVDs: left ventricular systolic dimension,

LVEDV: left ventricular end-diastolic volume, LVESV: left ventricular end-systolic volume, LVMI: left ventricular mass

index, LVEF: left ventricular ejection fraction, E: peak early mitral inflow velocity, A: late mitral inflow velocity